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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,313

03/17/2005

Stefano Calabro

2002P11724WOUS

2686

7590

10/04/2007

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
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EXAMINER

TRAN, DZUNG D

ART UNIT

PAPER NUMBER

2613

MAIL DATE

DELIVERY MODE

10/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,313

Applicant(s)

CALABRO ET AL.

Examiner

Dzung D. Tran

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation "wherein a data signal having a higher data rate" in claim 25 is vague and indefinite since any data rate can be "a higher data rate". Every limitation must be positively identified.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 16-24 and 26-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Shpantzer et.al. US publication no. 2002/0186435.

Regarding claims 16 and 33, Shpantzer discloses in Figures 2,3, 4 and 7 a method for transmitting optical polarization multiplex signals, the method comprising:

- data modulator 340 for converting a first binary signal into a first optical signal (paragraph 0063);

- data modulator 340 for converting a second binary signal into a second optical signal polarized orthogonally to the first optical signal (paragraph 0063);

- combiner 320 for combining the orthogonally polarized optical signals into a polarization multiplex signal;

- transmitting the polarization multiplex signal over fiber 245;

- a splitter 710 for dividing the polarization multiplex signal at the receiving end into two orthogonally polarized signal parts;

- optical phase detector for converting each polarized signal part in a linear manner into a complex signal (paragraph 0125);

- feeding the complex signals to a multidimensional filter whose coefficients are controlled in such a way that signals which have been reconstructed independently of the polarization of the received polarization multiplex signal and which correspond to the optical signals are fed out at the filter outputs, and that the reconstructed signals are demodulated and converted into binary signals at the receiving end (paragraph 0125).

Regarding claims 17 and 18, Shpantzer discloses wherein each polarized signal part is converted linearly into a complex electrical signal having two orthogonal components, and wherein its orthogonal components are fed to the controllable

multidimensional filter which, from said orthogonal components, obtains the reconstructed signals in the form of reconstructed signal components and wherein the polarized signal parts are converted into the complex signals or into the orthogonal components of the baseband (Figure 7, paragraph 0125).

Regarding claims 19 and 20, Shpantzer discloses in Figure 4, wherein the binary signals are converted into optical multiphase signals (paragraphs 0060-0061).

Regarding claims 21 and 22, Shpantzer discloses in Figure 4, wherein the first and second binary signals are converted by a four-stage differential phase modulation (i.e., H1, H2, V1, V2) into an optical multiphase signal comprising the first and second optical signals (paragraph 0061).

Regarding claims 23 and 24, Shpantzer discloses in Figure 7, wherein with the application of four-phase modulation or four-stage differential phase modulation, demodulated signal components are generated by demodulating the reconstructed signals or their signal components, and wherein the signal components of the demodulated signals are evaluated by threshold comparators and converted into binary signals at the receiving end (paragraphs 0125-0128).

Regarding claim 26, Shpantzer discloses wherein the optical signals are transmitted phase synchronously (paragraphs 0062-0063).

Regarding claim 29, Shpantzer discloses processor 1175 of Figure 11 for measuring the signal quality and compensating signal distortions in the complex signals and/or reconstructed signals.

Regarding claims 30 and 32, Shpantzer discloses wherein signal distortions are compensated by controlling the filter coefficients of the filter (paragraph 0132, 0136).

Regarding claim 31, Shpantzer discloses wherein the orthogonal components, having been digitized, are processed in a controllable digital filter to obtain the reconstructed signals (paragraphs 0092, 0103).

5. Claims 27 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Tanaka et al. U.S. Patent no. 6,681,082. Wavelength division multiplexing optical transmission system
- b. Ishikawa U.S. Patent no. 6,909,851. Dispersion compensation apparatus including a fixed dispersion compensation

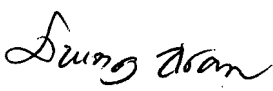
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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran
09/26/2007


DZUNG TRAN
PRIMARY PATENT EXAMINER